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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/577,854

04/28/2006

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EXAMINER

LEE, SIN J

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

11/18/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/577,854	Applicant(s) TAKEI ET AL.	
	Examiner Sin J. Lee	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9 is/are rejected.
- 7) ☒ Claim(s) 8 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In view of the amendment, previous objection on claim 2 is hereby withdrawn.
2. In view of the certified English translation of the Japanese priority document, previous 102(a) and 103(a) rejections over Take et al (WO'526) are hereby withdrawn.
3. Due to newly cited prior art, the following rejections are made non-final.
4. It is to be noted that claims 5 and 9 are interpreted by the Examiner to be drawn to a composition, which *is capable of being used for* forming an under layer coating by coating the composition on a semiconductor substrate having a hole with an aspect ratio shown in height/diameter of 1 or more, and baking it (since present claims 5 and 9 are not written in method claims).

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claims 1-3, 5, 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rudolph et al (4,011,392).

Rudolph teaches a coating composition containing mixed esters of starch (col.1, lines 4-18). Specifically, in Example E, Rudolph teaches low molecular weight *Dextrin-Acetate*-Hexahydrophthalate. Rudolph teaches that his mixed esters may be combined with a crosslinking agent (see col.20, lines 54-59). Rudolph also teaches (col.22, lines 56-65) that his composition can also include phenol (which is a carboic *acid*) to inhibit degradation. Based on Rudolph's teaching, it would have been obvious to one skilled in the art to add a crosslinking agent and phenol in Rudolph's coating composition

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containing Dextrin-Acetate-Hexahydrophthalate with a reasonable expectation of success. The acetate moiety in Dextrin-Acetate teaches present formula (1). Rudolph's mixed esters of starch have Mw ranging up to about 100,000. This range overlaps with present range of 4,000 to 20,000 and thus renders obvious present range of claim 2. In the case "where the [claimed] ranges overlap or lie inside ranges disclosed by the prior art," a prima facie case of obviousness would exist which may be overcome by a showing of unexpected results, *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976). Rudolph's composition also contains solvent (see col.22, lines 32-38). Thus, Rudolph's teaching renders obvious present inventions of claims 1-3, 5, 6 and 9 (it is the Examiner's position that Rudolph's composition containing Dextrin-Acetate, a crosslinking agent, phenol (a carboic acid) and a solvent would inherently be capable of being used as an under layer coating forming composition as present recited).

7. It is to be noted that present rejection over Rudolph would be overcome if present claims are written in method claim languages (see present claims 4 and 7).

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

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A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1, 2, 4, 5, 7 and 9 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 7 and 11 of U.S. Patent No. 7,361,718. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reason:

Pat.'718 teaches (see claims 1, 2 and 7) a gap fill material forming composition that contains a polymer (having Mw of 500 to 30000) such as *dextrin ester* compound and a crosslinking agent. The gap fill material is coated onto a substrate and then baked (see claim 11). Claim 1 of Pat.'718 (see preamble of the claim) also teaches lithography steps. Thus, Pat.'718 renders obvious present inventions of claims 1, 2, 4, 5, 7 and 9.

Allowable Subject Matter

10. Claims 8 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

None of the cited prior arts teaches or suggests present method of present claims 8 and 10 (which depend from present claims 3 and 6).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sin J. Lee whose telephone number is 571-272-1333.

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The examiner can normally be reached on Monday-Friday from 9:00 am EST to 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly, can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Sin J. Lee/
Primary Examiner, Art Unit 1795
November 16, 2009